JAVA PBL - 16 OCT 2025 (Easy Version)

Q1. Coffee Order Processing

Question: Process a coffee order: take customer size choice, calculate total price bas

Answer:

```
import java.util.*;

public class CoffeeOrder {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        String[] drinks = {"Espresso", "Latte", "Cappuccino", "Mocha", "Americano"};
        double price = 0;

        System.out.println("Available drinks:");
        for (int i = 0; i < drinks.length; i++)
            System.out.println((i+1) + ". " + drinks[i]);

        try {
            System.out.print("Choose drink (1-5): ");
            int choice = sc.nextInt();
            if(choice < 1 || choice > 5) throw new Exception("Invalid drink choice!");

            System.out.print("Enter size (S/M/L): ");
            char size = sc.next().toUpperCase().charAt(0);

            switch(size) {
                case 'S': price = 100; break;
                case 'M': price = 150; break;
                case 'L': price = 200; break;
                default: throw new Exception("Invalid size!");
            }

            System.out.print("Add extra shot for Rs.50? (yes/no): ");
            String addon = sc.next().toLowerCase();
            if(addon.equals("yes")) price += 50;

            System.out.println("Total for " + drinks[choice-1] + ": Rs." + price);
        } catch (Exception e) {
            System.out.println("Error: " + e.getMessage());
        }
    }
}
```

Q2. Basic Calculator using Switch

Question: Create a method that accepts two numbers and an operation symbol. Use a swit

Answer:

```
import java.util.*;

public class Calculator {
    static double calculate(double a, double b, char op) {
        switch(op) {
            case '+': return a + b;
            case '-': return a - b;
            case '*': return a * b;
            case '/':
                if(b == 0) throw new ArithmeticException("Division by zero!");
                return a / b;
            default: throw new IllegalArgumentException("Invalid operator!");
        }
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        try {
            System.out.print("Enter first number: ");
            double a = sc.nextDouble();
            System.out.print("Enter second number: ");
            double b = sc.nextDouble();
            System.out.print("Enter operation (+, -, *, /): ");
            char op = sc.next().charAt(0);

            double result = calculate(a, b, op);
            System.out.println("Result: " + result);
        } catch (Exception e) {
            System.out.println("Error: " + e.getMessage());
        }
    }
}
```

Q3. Count Vowels, Consonants, Digits, and Symbols

Question: Input a string and count vowels, consonants, digits, and special characters

Answer:

```
import java.util.*;

public class CountCharacters {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a string: ");
        String str = sc.nextLine();

        int vowels = 0, consonants = 0, digits = 0, specials = 0;
        str = str.toLowerCase();

        for(char ch : str.toCharArray()) {
            if(Character.isLetter(ch)) {
                if("aeiou".indexOf(ch) != -1) vowels++;
                else consonants++;
            } else if(Character.isDigit(ch)) digits++;
            else if(!Character.isWhitespace(ch)) specials++;
        }

        System.out.println("Vowels: " + vowels);
        System.out.println("Consonants: " + consonants);
        System.out.println("Digits: " + digits);
        System.out.println("Special Characters: " + specials);
    }
}
```

Q4. Customer Interest Calculation

Question: For n customers, input name, account type, and balance. Apply 4% interest fo

Answer:

```
import java.util.*;

public class InterestCalculator {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter number of customers: ");
        int n = sc.nextInt();

        String[] names = new String[n];
        String[] types = new String[n];
        double[] balances = new double[n];

        for(int i = 0; i < n; i++) {
            System.out.print("Enter name: ");
            names[i] = sc.next();
            System.out.print("Enter account type (savings/fixed): ");
            types[i] = sc.next().toLowerCase();
            System.out.print("Enter balance: ");
            balances[i] = sc.nextDouble();

            if(types[i].equals("savings"))
                balances[i] += balances[i] * 0.04;
            else if(types[i].equals("fixed"))
                balances[i] += balances[i] * 0.06;
            else
                System.out.println("Invalid account type for " + names[i]);
        }

        System.out.println("\nUpdated Balances:");
        for(int i = 0; i < n; i++)
            System.out.println(names[i] + " - Rs." + balances[i]);
    }
}
```

Q5. Celsius to Fahrenheit Conversion

Question: Read 5 daily temperatures into an array. Use a loop and a method to convert

Answer:

```
public class TemperatureConversion {
    static double cToF(double c) {
        return (c * 9/5) + 32;
    }

    public static void main(String[] args) {
        double[] celsius = {25.0, 30.5, 22.3, 28.8, 31.0};

        System.out.println("Celsius to Fahrenheit Conversion:");
        for(double c : celsius)
            System.out.println(c + "°C = " + cToF(c) + "°F");
    }
}
```

Q6. Electricity Bill Calculation

Question: Accept number of units consumed and calculate bill based on slab rates using

Answer:

```
import java.util.*;

public class ElectricityBill {
    static double calculateBill(int units) {
        if(units <= 100) return units * 1.5;
        else if(units <= 200) return 100 * 1.5 + (units - 100) * 2.5;
        else return 100 * 1.5 + 100 * 2.5 + (units - 200) * 3.5;
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter units consumed: ");
        int units = sc.nextInt();
        System.out.println("Total Bill: Rs." + calculateBill(units));
    }
}
```

Q7. Palindrome Checker

Question: Input a string and check if it’s a palindrome (ignore case and spaces). Use s

Answer:

```
import java.util.*;

public class PalindromeCheck {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a string: ");
        String str = sc.nextLine().replaceAll("\\s+", "").toLowerCase();

        try {
            String rev = new StringBuilder(str).reverse().toString();
            if(str.equals(rev))
                System.out.println("It is a Palindrome.");
            else
                System.out.println("Not a Palindrome.");
        } catch (Exception e) {
            System.out.println("Error: " + e.getMessage());
        }
    }
}
```

Q8. Character Replacement in a Word

Question: Read a word (String). Use a loop and a switch on each character to replace '

Answer:

```
import java.util.*;

public class ReplaceCharacters {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter a word: ");
        String word = sc.nextLine().toLowerCase();
        StringBuilder result = new StringBuilder();

        for(char ch : word.toCharArray()) {
            switch(ch) {
                case 'a': result.append('4'); break;
                case 'e': result.append('3'); break;
                case 'o': result.append('0'); break;
                default: result.append(ch);
            }
        }

        System.out.println("Modified Word: " + result);
    }
}
```